WSARA Impacts on Early Acquisition

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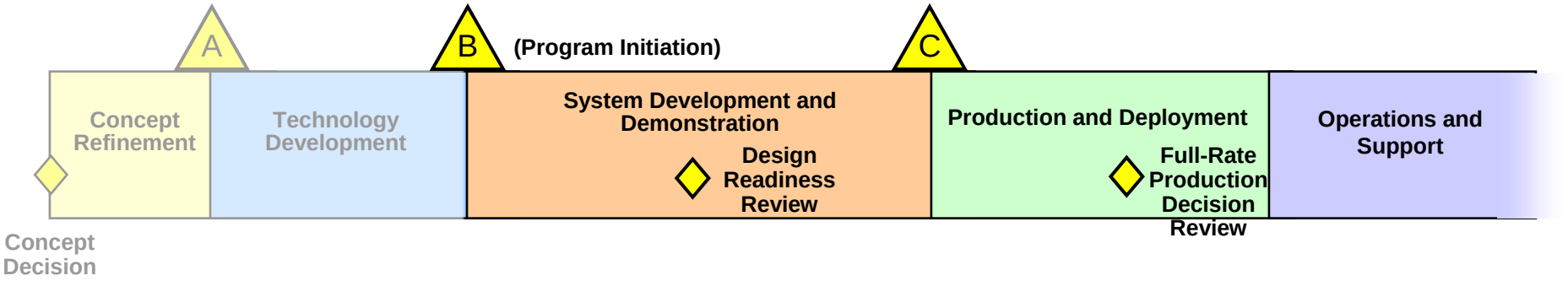
A Little Acquisition Lifecycle History – the Phantom Phases

DoDI 5000.2, the Defense Acquisition Management System
May 12, 2003 – December 8, 2008



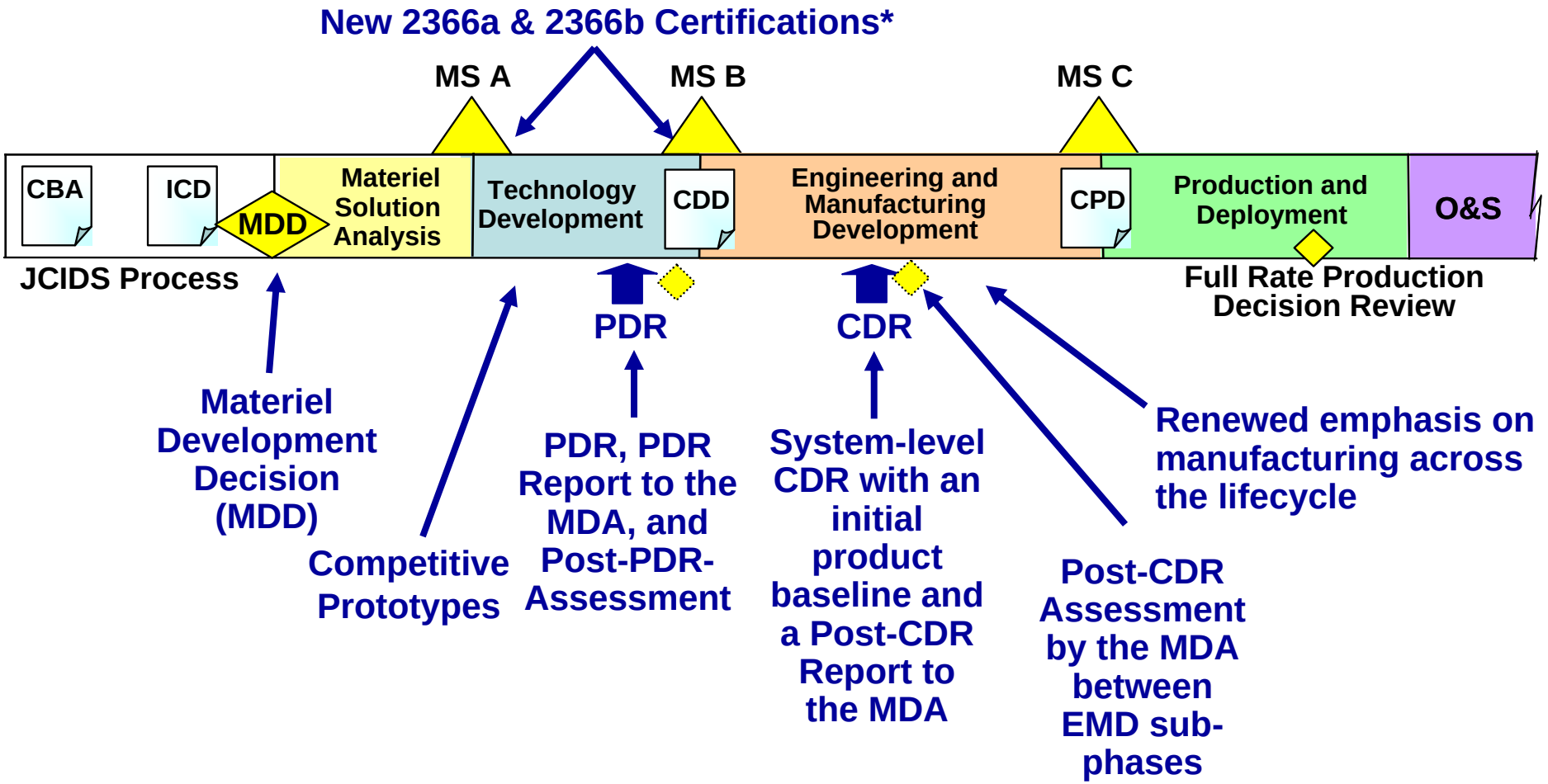
In the 5+ years, 2003-2008:*

- **Only 1 non-ship pre-MDAP has gone through a MS A**
- **20 MDAPs have gone through a MS B**
- **14 MDAPs had had Nunn-McCurdy breaches**

Breaches COULD be indicative of insufficient technical knowledge to establish Milestone B cost and schedule baselines.

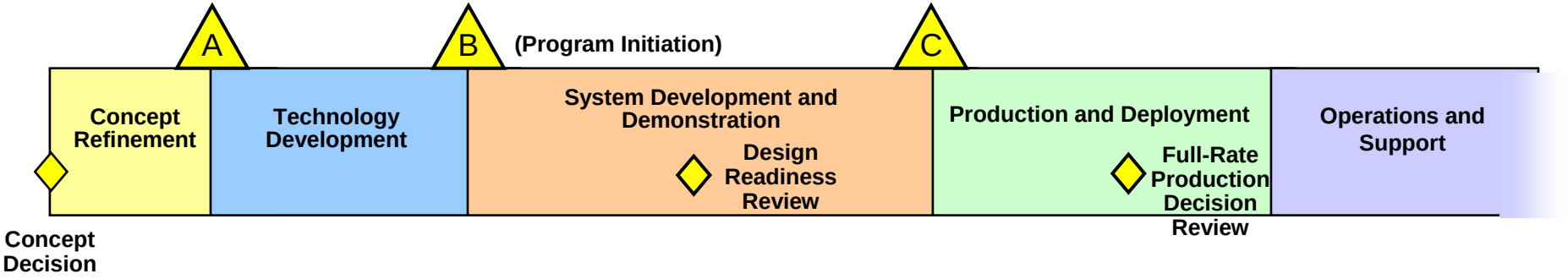
***Data from Program Support Reviews**

DoD 5000.02 and PL 111-23 – the Changed Acquisition Landscape

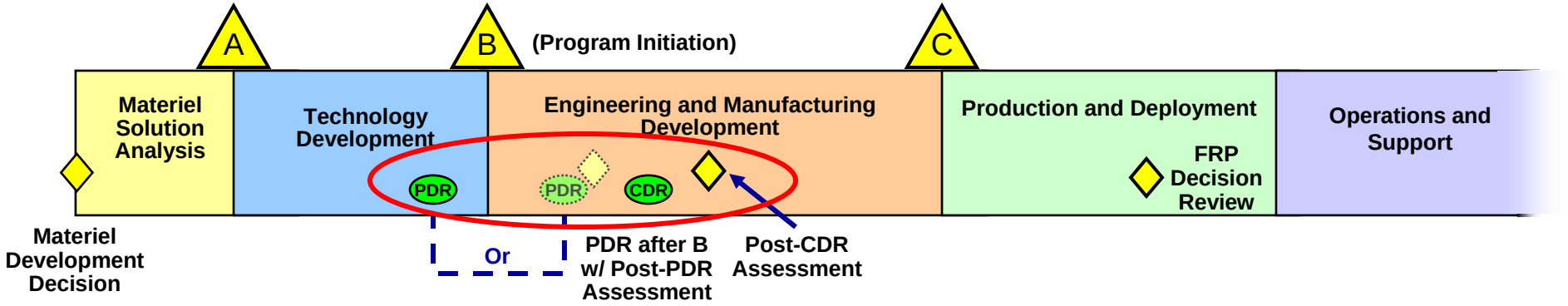


Acquisition Lifecycle Comparisons

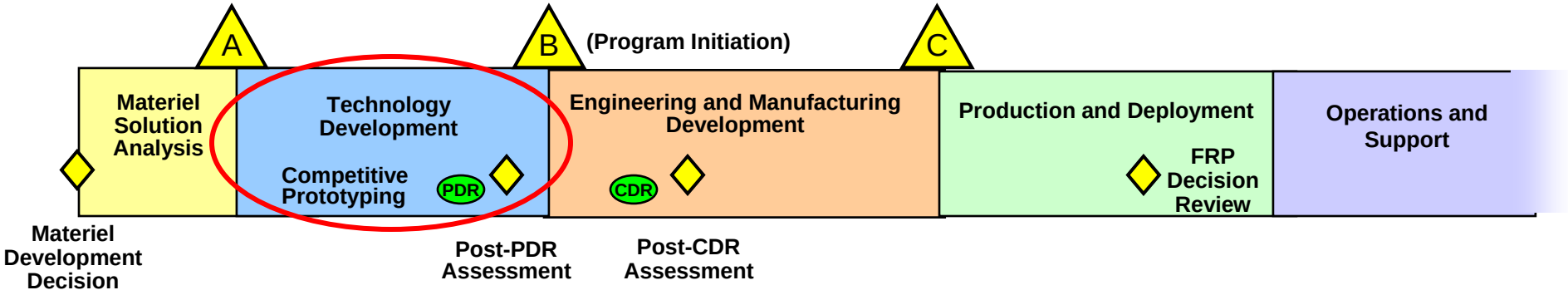
Defense Acquisition Management System, May 12, 2003 (DoDI 5000.2)



Defense Acquisition Management System, December 8, 2008 (new DoDI 5000.02)



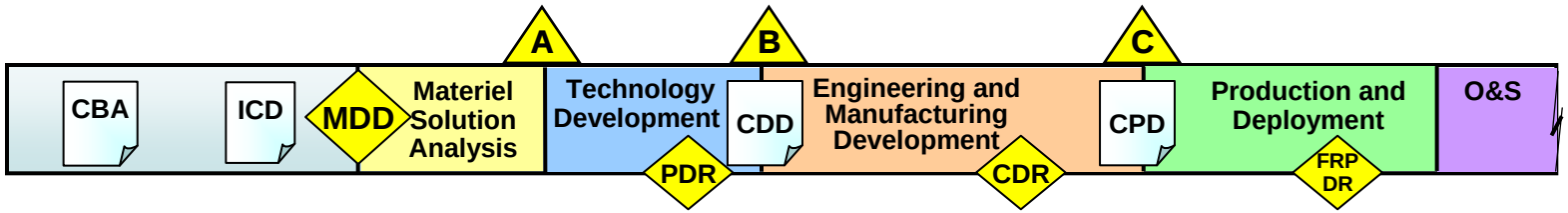
Defense Acquisition Management System, May 22, 2009 (WSARA)

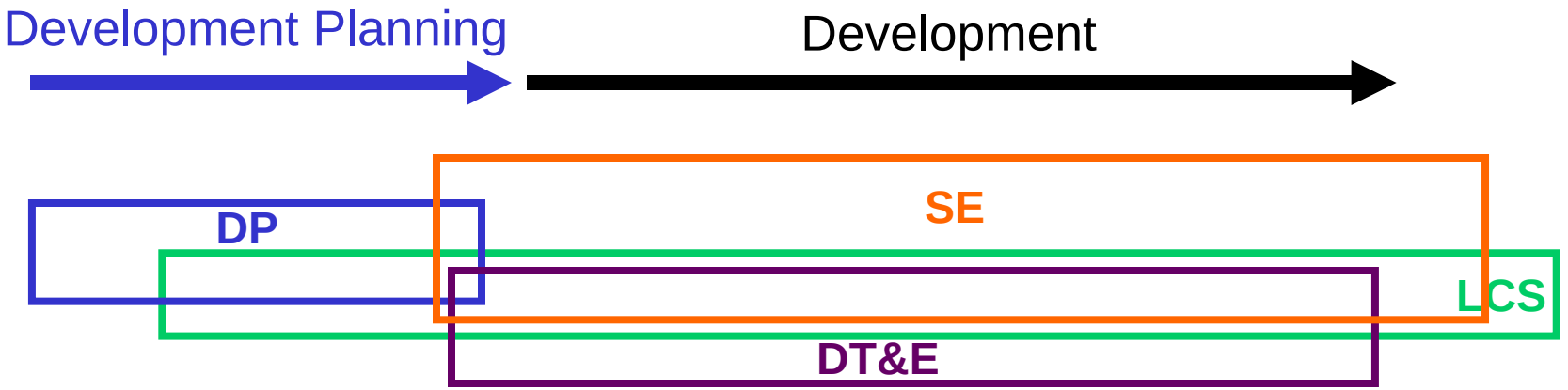


WSARA Impact on Early Acquisition

- **New legislation, Public Law 111-23 (WSARA) recognizes the importance of SE to weapon systems acquisition**
- **Heavy focus on starting MDAPs right:**
  - **Development and tracking of "measurable performance criteria" as part of SEPs and TESs / TEMPs**
  - **Requiring completion of competitive prototypes for all Major Defense Acquisition Programs (MDAPs)**
  - **Requiring completion and MDA assessment of a system-level Preliminary Design Review (PDR) before MS B**
  - **Codifying a role for SE in development planning, integration risk (delegated by the DDR&E), lifecycle management, and sustainability**
- **Yearly OSD assessment to Congress of Component capabilities for SE, development planning, and DT&E**

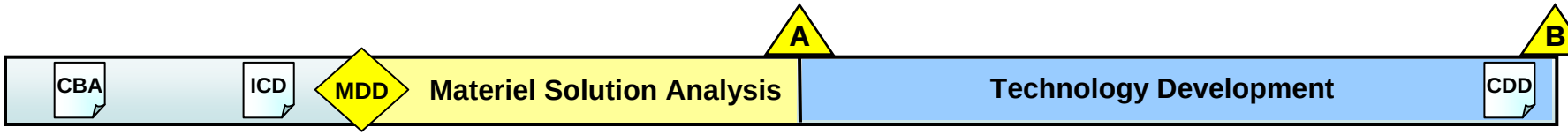
New Emphasis on Development Planning and Early SE





DP: Development Planning
DT&E: Developmental Test and Evaluation
LCS: Life Cycle Sustainment
SE: System Engineering
CBA: Capabilities Based Assessment
CDD: Capability Development Document
CPD: Capability Production Document
ICD: Initial Capabilities Document
MDD: Materiel Development Decision

Development Planning and Early SE Critical Activities



SE Input to MDD	CONOPS
	Awareness of Strategic Context
	Engagement with S&T Engagement with JCIDS
Engagement in AoA	Guidance
	Plan
	Analysis Activity
	Report
Engineering Analysis	Consideration of SOS/Interdependency, Interoperability Context
	SEP for Milestone A
	Input to TDS (CTE, CPI), TES, CCE
	SE in TD Contract Requirements
	Tech Reviews (ASR, Early SE Requirements)

Prototyping & Risk Reduction	Prototyping (Technology and Design)
	CTE TRL Maturation
	Trade Studies
	SE Support for Technology Risk Reduction
	Oversight of Competitive Designs
	Risk Assessment
Input to Acquisition/ Planning, CARD, Budget & Other	SE in Contract Requirements
	SE into the PDR Report to MDA, Acquisition Strategy, TEMP, CARD, and ICE
Evidence of Strong SE Activity	PDR and PDR Report and Assessment
	Technical Reviews up to and including PDR
	Systems Engineering Plan
	Strong Reliability, Availability and Maintainability (RAM)
Inputs to Requirements	System Requirements Definition
	RAM and Sustainability
	Requirements Traceability Matrices
	Translation of Requirements to Contract
	Capability Development Document (CDD)

*Reference DAG Sections 4.3.1 and 4.3..2

New Challenges for Program Managers

- Need for Program Office formation and PM skill-sets after MDD and prior to MS A
- Increased importance of the Technology Development Strategy (TDS) (as a surrogate Acquisition Strategy) at MS A
- Schedule and funding shifts left – from EMD to TD
- Earlier engagement with industry and different contracting strategies for technology maturation, competitive prototyping, data rights, PDR before MS B, etc.
- Explicit need for earlier, formal SE process application (e.g., data, configuration, and risk management)
- New MS A cost and schedule baselines with breach penalties and MDA certifications for MDAPs
- Additional MS B MDA MDAP certifications including formal post-PDR assessment that the program demonstrates a high likelihood of accomplishing its intended mission

The Milestone A Planning Challenge

Documents / activities / data requiring technical input from the Program Office *before* Milestone A:

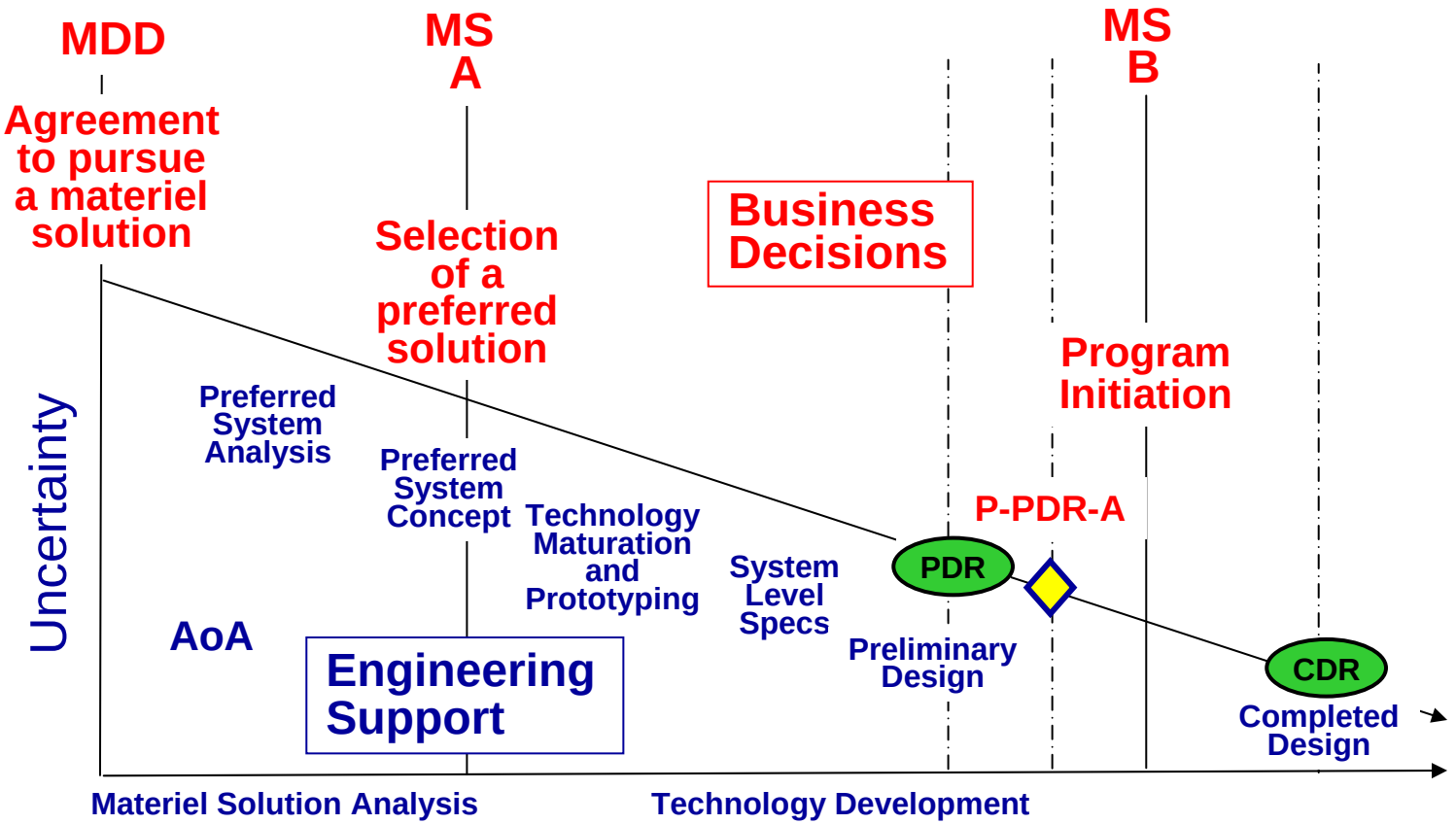
- Analysis of Alternatives
- Technology Development Strategy
  - Critical Program Information
  - Technology Maturation plans
  - Competitive Prototyping plans
  - Net-Centric Data Strategy
  - Market Research
  - Data Management Strategy
- Component Cost Estimate
- Systems Engineering Plan
- Test and Evaluation Strategy

The PM's Dilemma: Where to find the data!?

Why is this hard?

- **Program offices (both government and contractor) have very little experience with pre-MS B acquisition activities, particularly competitive prototyping and PDR before MS B**
- **The DAG guidance is voluminous – online resource with over 750 printed pages with relevant, phase-related guidance sprinkled throughout**
- **Program offices have limited understanding about these interdependencies within the DAG guidance**
- **New implementing policy and DAG guidance in response to PL 111-23 will not be available immediately**

Why WSARA: Driving Risk out of MS B Decisions . . .



"Knowledge-based" Decision Making . . .
making acquisition decisions when you have solid evidence and acceptable risk